

**PERCEIVED OCCUPATIONAL AND ENVIRONMENTAL HEALTH HAZARDS  
AMONG WORKERS IN SMALL-SCALE INDUSTRIES IN DAR ES SALAAM,  
TANZANIA: A FOCUS GROUP DISCUSSION STUDY.**

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## **Abstract**

While the informal sector is rapidly emerging as the major source of employment in poor countries, little is known to the health hazards encountered by the workers in small-scale industries (SSI). We conducted 11 focus group discussions (FGD) among the workers in SSI to assess felt occupational and environmental health hazards (EHH), two each among food vendors and residents living near SSI to assess their perception of EHH; and two FGD among health workers to assess work related health complaints among the SSI workers. SSI workers were aware of the occupational and EHH. SSI owners were also not given permanent workplace by the Local Government. The unavailability of permanent workplaces caused some owners of SSI to give a low priority to investing in health and safety at workplaces. A clear policy by the Local Government for the informal sector addressing priority issues such as permanent workplaces for SSI is needed. Also a reorientation of health services towards protection and promotion of health of low-income urban residents in SSI may contribute to an improvement of working conditions and thus have a positive impact on workers' health in urban centres.

**Key words:** urban informal sector; occupational health; environmental health; community participation; focus group discussion

## 1. Introduction

Urbanisation and its accompanying increase in urban poverty in many countries of the South have led to an increasing burden on the urban environment and thus on urban health. Although the population is predominantly rural, the percentage of urban residents has been increasing steadily from 6% in 1967 to 13.8% in 1979 to 18% in 1988.<sup>1</sup> A national census in August 2002 showed that the population of Dar es Salaam was 2,497,940 people.<sup>2</sup> Urbanisation may also be a response to poverty. The impact of the environment on health of the people is not equally distributed within cities but affects the urban residents disproportionately.

According to the World Health Organization's Global Strategy for Health and Environment *"The subject of health and environment encompasses the health consequences of interaction between human populations and the whole range of factors in their physical and social environments. The social environment includes social conditions and structures that determine the distribution of health risks and health sustaining benefits"*<sup>3</sup>

Often the physical characteristics (including both natural and man-made elements, consisting of physical, chemical and biological factors) of the urban environment in Southern countries are held responsible for the most significant health risks for urban people as a whole. The health effects are also largely determined by environmental factors such as social cultural, economic, political, technological, spiritual and relational that make up the settings in which people live.<sup>4</sup>

Access to employment is considered as an important aspect of the social environment. As urbanization is increasing rapidly, less job opportunities will be found in

the formal sector. As a result the informal sector is experiencing a fast growth. The International Labour Organization's Conference of 1991 defines the informal sector as: *"Very small scale units producing and distributing goods and services, and consisting largely of independent, self-employed producers in urban areas of developing countries, some of whom also employ family labour and/or a few hired workers or apprentices; which operate with very little capital or none at all; which utilise a low level of technology and skills; which operate at a low level of productivity, and which generally provide very low and irregular incomes and highly unstable employment to those who work in it"*<sup>5</sup>. The definition used by Bagachwa (1996) is not quite different from this except that he emphasized that activities in informal sector in Tanzania are outside the government legal system<sup>1</sup>. Mainly the urban poor, among them women and children, use the informal sector work as a survival strategy<sup>6,7</sup>. The characteristics mentioned in the ILO definition and the lack of legislation and health care are likely to influence the health of the informal sector workers<sup>6,7</sup>.

Dar es Salaam City has experienced a rapid urbanization during the last twenty-five years (356,000 persons in 1967, 1.3 million persons in 1988, reaching 2.5million in 2002)<sup>8</sup>. Rural-urban migration as well as natural population growth are likely responsible for this growth. The predominance of migrant workers as a proportion of the total informal sector in Dar es Salaam (90%) suggests that the rural-urban migration could be the major factor in explaining the origin of the urban informal sector<sup>9</sup>.

The rapid growth of the informal sector during the early 1980s has not been due to the Government's promotional efforts, instead it reflects the independent survival

efforts made by informal entrepreneurs. About 56% of the total employment in Tanzania is contributed by the informal sector <sup>10</sup>.

According to the Tanzania Informal Sector Survey, the division of employment per group of the informal sector industries in Dar es Salaam is contributed by agriculture and fishing 7%, manufacturing factories 14%, construction 7%, trade/restaurants and hotels 64%, transport 1% and community and personal services 6% <sup>10</sup>. Unfortunately in this study, trades and restaurants were grouped together. Faced with a growth rate of the labour force at 3% per annum, and the pressure to create employment, the government is now promoting this informal sector <sup>5</sup>.

One of the objectives of the national policy for the informal sector is improvement of working conditions <sup>11</sup>. The Factories Inspectorate (Ministry of Labour and Youth Development) and the Tanzania Occupational Health Service are responsible for the assessment and treatment of work related health problems, respectively, among workers employed in Government or private factories and industries. However, little attention has been paid by such organizations to assess the occupational and environmental health hazards in SSI in the informal sector.

Between September 1994 and February 1996 we conducted a qualitative study on the health aspects of the informal sector enterprises in Dar es Salaam. The study took place within the framework of the Health and Environment in the Cities (HEC) network programme, involving institutes from the South and the North and that was meant to be a continuous working platform. The HEC partner in Tanzania is the Dar es Salaam Urban Health Group, comprising the Muhimbili University College of Health Sciences, the Tanzanian Food and Nutrition Center and the Dar es Salaam Urban Health Project.

(associated with the City Council) The objective of the study was to identify the felt and perceived health risks of the informal sector workers in small-scale enterprises and of the people living in the vicinity of the enterprises The involvement of the workers and the residents as subjects (and not as objects) in the study was meant to give us an opportunity to identify the problems together with them and to base the second phase of the study on their priorities We know about the health hazards in SSI but people involved could experience them differently This study used focus group discussion to discover the differences The participatory approach and the qualitative methodology used provided the participants with an opportunity to emphasize their own priorities and health needs and perspectives

## **2. Methods**

### **2.1 Study area**

Dar es Salaam City consists of three Municipalities (Temeke, Kinondoni and Ilala), which are divided in 52 wards <sup>8</sup> Three of these wards (Temeke 14, Mwananyamala and Gereza) were selected conveniently and included in the study The total population in the wards of Temeke 14, Mwananyamala, and Gereza was estimated in 1988 at about 73,000, 91,000 and 7,500 respectively <sup>8</sup>

At ward level, basic statistics describing the provision of basic needs were not available Data concerning water and electricity supply and sanitary facilities were only found at the district level, in which a distinction was made between urban and rural areas of the districts <sup>12</sup> The percentage of the population with access to piped potable water was 84%, 99% and 89%, for urban areas in Temeke, Kinondoni and Ilala Municipalities,

respectively. More than half of the population in each of the districts had no access to electricity (67% in Temeke, 54% in Kinyondoni, 52% in Ilala). The percentage of the population without access to sanitary facilities was 1% or less for each of the districts. The majority of the population in all the three Municipalities used pit latrines (90% in Temeke, 75% in Kinyondoni and 76% in Ilala).

The small-scale industries included in our study were concentrated in small parts of the wards. The study area in Temeke had 27 garages, 3 wood workshops and one metal workshop. The area also accommodated a small market and many food stalls. Four out of 6 pit latrines in the Temeke 14 were in bad condition for human use. In Mwananyamala, two garages and seven metal workshops were found nearby a market area. No communal pit latrine was available in the area. Gerezaani had two concentrations of small-scale industries. One area accommodated mainly garages (around 14) and food vendors (around 6 stalls). In the other area, a large cooperative (with almost 500 members) was found where metal work, carpentry, welding and handicraft activities were performed. In this area, there were six communal flush toilets and all were in good condition. Outside this cooperative, a few garages and metal workshops were located and there were no communal latrines.

Compared to the relatively good environmental conditions described for the urban part of the districts, the work conditions found in the study areas were bad. We visited the study areas ten times to finalize all the formalities required and observed that water supply, sanitary facilities and garbage collection was insufficient for the large number of people working in the areas. The majority of the enterprises collected water from one public tap. A wastewater disposal system was nowhere available. Hardly any of the

small-scale industries operating in the study areas had their own sanitary facilities. The public sanitary facilities (only found in Temeke area) were by far insufficient for the number of workers. Public garbage collection facilities were not available in the different areas. Heaps of garbage were observed everywhere. The infrastructure of the areas was unsatisfactory. During dry season the unpaved roads were very dusty, and during the rainy season stagnant water pools were found everywhere.

## 2.2 Participants

The researchers made a selection of study participants for FGD after doing a walk through survey carried out in the small-scale industries. This also enabled the researchers to prepare a checklist to be used by a moderator during the conduct of a FGD. Categories of participants in the focus group discussions are described in Table 2.1 as follows:

Employees and operators (or 'managers') of the small-scale industries. The operators or managers were in charge of the daily activities in the enterprise but did not necessarily own them. The discussions with these groups focused on the felt occupational and environmental health hazards related to their work in the enterprises and on the impact the enterprises could have on the immediate environment in which they were operating. We planned separate sessions for employees and the operators. However, it turned out that they were often attending one FGD together.

Food vendors were people cooking and selling food in the immediate vicinity of the enterprises in Temeke and Gerezani. In Mwananyamala there were not any food vendors who worked in the immediate vicinity of the enterprises. The discussion focused on their perceived occupational and environmental health hazards related to the small-scale



industries. In FGD among employees and operators in Gerezani 10 food vendors participated.

As regards to the residents living near the enterprises in Temeke, the emphasis was on the environmental health hazards related to small-scale industries. Two FGD among residents were conducted in Temeke and one each among women and men. In Mwananyamala and Gerezani, the location in which the enterprises were operating did not have a residential function.

Regarding health workers working in health care facilities in the study areas, we included workers from both public and private sector. Traditional healers were not included in this study as health workers and we have no information whether they were consulted by workers from SSI. A district hospital and a private dispensary in Temeke and a government dispensary in Gerezani were also included. The discussion focused on the perceived occupational and environmental health hazards related to the enterprises. The health personnel of the District Hospital were approached at Mwananyamala hospital and they alleged that they were not confronted with occupational and environmental health problems in their daily work and therefore they found it was not necessary to participate in the FGD.

## 2.3 Assessment of the felt occupational and environmental health hazards

### *Focus group discussion*

An interview schedule (checklist) to guide the FGD was designed and pretested before use with the help of a social scientist (SH). The questions in the checklist were similar except for minor differences as shown below.

## *2 3 1 Focus group discussions with workers and employers in small-scale industries*

### *2 3 1 1 Felt occupational health hazards (OHH)*

The moderator used a checklist containing the following items to assess the felt occupational health hazards among workers and employers from small-scale industries. The checklist contained questions for assessing crowding, exposures to dust, welding fumes, soldering fumes, excessive noise and chemicals (acids, benzene, kerosene, degreasing agents, asbestos and spray fumes)). We also discussed about exposure to accidents and injuries, ergonomic conditions, working conditions and use of protective devices. The last question in the checklist was open to any other felt OHH.

### *2 3 1 2 Felt environmental health hazards (EHH)*

We assessed the felt EHH among workers from small-scale industries by using a checklist to assess environmental pollution (water supply adequacy, availability of excreta disposal facilities, solid waste disposal, disposal of wastewater, presence of proper ventilation). We asked if the SSI had a permanent workplace, and whether the employers or owners of the SSI had invested resources on occupational health and safety, and any other felt environmental hazards.

### *2 3 1 3 Reported health complaints by workers in SSI*

We used a checklist to assess work related health complaints (acute and chronic) such as respiratory symptoms (cough, flu, chest pains, sneezing, nose irritation), eye irritations, headache, contact irritant dermatitis, abdominal and lower back pain, tuberculosis, tetanus, and others.

## *2 3 2 Assessment of perceived occupational and environmental health hazards (food vendors, health workers, people living near SSE)*

### *2 3 2 1 Perceived occupational and environmental health hazards (OEHH) by food vendors in SSI*

We used a checklist with questions to enable food vendors to assess the extent to which OHH workers in SSI were exposed to dust, fumes, welding fumes, and EHH including the availability of water supply for washing before eating food and after work, proper disposal of food leftovers, availability of excreta disposal facilities, and contact with sharp objects

### *2 3 2 2 Perceived OEHH by residents living in the vicinity of SSI*

A checklist was used containing checks for exposures to occupational pollutants (such as soil dust and wood dust), sharp metals, paint fumes and excessive noise. Other items on the list were EHH such as improper disposal of wastewater from SSI flowing to living places in the rainy season, and exposure to dust (soil, saw dust and smoke particles) in the dry season

### *2 3 2 3 Perceived OEHH by health workers in SSI*

We used a checklist containing the following items: exposure to dust, welding fumes, soldering fumes, excessive noise and chemicals (acids, benzene, kerosene, degreasing agents, asbestos, spray fumes) and EHH such as the availability of water supply, proper solid wastes disposal (including sharp objects), use of protective gears, disposal of human excreta, and place of first health care after injury in SSI

## 2.4 Sampling criteria

We randomly selected small-scale industries from the three study areas, then we informed the owners of the SSI in writing. The selection of study participants to join an FGD was left to heads or owners of the SSI. The participants selected in all the three areas are summarized on Table 1.

## 2.5 Conduct of the Focus group discussion

Each focus group discussion had the following participants: a moderator, recorder, secretary taking notes, observers (researchers), and workers from garages, metal workshops, wood workshops, health workers, or residents living near the SSI, or potential food vendors (research subjects). One FGD took an hour and consisted of 6-10 participants. Soft drinks were provided to the participants at the beginning and end of the FGD. The checklist was prepared in English and translated into Kiswahili, the national language of Tanzania. The moderator was a social scientist conversant in English and Kiswahili. The FGD in Temeke 14 and Mwananyamala were done outside their workplace, whereas that in Gereza ni was also done in a private room at the workplace.

Before starting any FGD session, the moderator established rapport with all participants by allowing them to introduce themselves to the rest of the group by name, age, educational level and place of work. A checklist was used to introduce the discussion points to the participants. The questions on occupational health hazards were asked first, followed by environmental health problems, health complaints and any other issues regardless of whether they were of occupational or environmental health in nature. Following each FGD the first impressions were discussed and written by the moderator,

observers and the secretary Transcription and translation of the FGD was done immediately after the completion of the FGD

## 2.6 Data processing and analysis

The transcripts and notes from each FGD were then analyzed using content analysis by means of a set approach according to guidelines given by Varkevisser and colleagues<sup>13</sup> and Kaguna-Amooti and Nuwaha<sup>14</sup> First, the transcripts and notes were ordered according to the topics addressed by the discussion As the second step of the analysis, issues that were brought forward repeatedly or were discussed at length by the participants, and relevant parts from each FGD and notes, were ordered by these issues, using a ‘cut and paste’ method The third step was to make a summary of the results for each FGD, based on the issues that were discussed by various groups The summaries were reviewed by another person experienced in qualitative methodological research, to test whether the summaries were good representations of the FGD and the summaries were then revised based on his comments Finally, an overall summary of the discussion was made

## 3. Results

### 3.1 Description of the study population

Of the 88 participants, the majority 68% (60/88) had completed primary school education, 69% were married and 59% had a family to take care of (52/88) The average monthly income for operators and for employees in Dar es Salaam was estimated at US\$73 and US\$18, respectively Payments in kind were included in these estimations

This suggested that the informal sector workers in general had a very low salary to maintain a family. Given the fact that almost half (47.7%) of the participants had family relations within the small-scale industry, it was not clear whether this would contribute positively to the payment in kind. Most of the participants did not live in the same area as where their small-scale industries were located. This could have caused an additional burden on the income since daily travel costs had to be raised. During the field visits, predominantly male and hardly any child labour was observed. This was reflected in the FGD among employees and operators. All the 88 participants in the 9 FGD were men. The mean age was 31 (range 15 to 55 years). The participation of female workers in the sectors of woodwork, metal work and vehicle repair was estimated to be below 2% of the total workforce in these sectors in Dar es Salaam.

3.2 Felt occupational and environmental health hazards by SSI workers, and self-reported health complaints

#### 3.2.1 Overcrowding

As a primary discontent overcrowding was expressed as a big problem in the SSI areas. *'There is no planning or separation of different activities, things are done randomly, you may work very close to someone who is doing a different job from yours and as a result you experience the hazards from someone else's job as well'* (operator)

#### 3.2.2 Accidents

In most of the FGD the risk of accidents and electric shocks was mentioned. In five of the 9 FGD among employees and operators, injury from cuts with sharps and the risk of contracting tetanus was seen as a serious problem. *'It is quite normal for us to get*

*cuts but we do not have any first aid. We apply acid or kerosene on the site and continue working'* (employee, metal workshop).

### *3.2.3 Exposures to excessive noise, dust, and welding fumes*

Exposure to high noise levels was rarely felt as a problem. On the contrary: there were several striking remarks on how noise could improve the hearing capacity of people: *'There are absolutely no hearing problems, as we are always exposed to all kinds of noises we can hear much better'* (operator garage). *'First these hammering jobs cause hearing problems, but later as one gets used to the job there are no hearing problems'* (employee, metal workshop).

### *3.2.4 Working conditions*

The majority of the participants reported that they were working with old and inadequate equipment. Both the lack of adequate equipment and capital to purchase new equipment were directly related to the health problems encountered during their work. This was seen as the commonest reason why workers got health problems. *'We know all the work safety rules and regulations which will enable us to avoid sicknesses, but the problem is the lack of equipment'* (employee, garage).

### *3.2.5 Ergonomic conditions*

The participants in the FGD never mentioned the bad ergonomic conditions, that were common at the work places in the enterprises and these could have made an important contribution to health problems such as backaches and joint pains.

### *3.2.6 Environmental pollution*

The employees and operators of the small-scale industries felt that their enterprises did not cause many problems to the physical environment. Only the garbage

disposed in the area, the fumes from the cars at the garages and the lack of sanitary facilities were mentioned as the sources of pollution *'Since there are no toilets around and people relieve themselves in the open, when it is raining the filth is spread close to our working area'* (employee enterprise)

### 3 2 7 Permanent workplaces

All open spaces (plots) in the City of Dar es Salaam were managed by the City Council, and were earmarked by the city for specific future developments. The owners of SSI invaded these open spaces and illegally constructed temporary shelters in which they conducted their business. Some of the enterprises had licenses to perform their business. This caused a lot of insecurity for the operators and did not encourage them to invest in their workplace to improve the working conditions. *"We are more or less like the street vendors, the City Council can kick us out any time"* (operator, garage). *"The garages can get loans for improving their working conditions, but suppose they are chased out, who will repay the loan? We just need the authority to remain in our premises"* (operator, garage)

### 3 2 8 Investment in occupational health and safety

The lack of investment by the operators in their enterprises was associated with several problems. The workplaces were mostly unsheltered and as a result they exposed the employees to sunburn and rain and lowered the availability of work during rainy season. Furthermore, the workplaces were unfenced which created an unsafe environment for the properties of both the operators and the customers. This had again an economic impact. *"We are unable to get bigger jobs because our working places are not sheltered"*



and there is virtually no security for customers to leave their cars or items' (operator, garage).

### 3.2.9 Reported chronic and acute health complaints

For the problems attributed to the occupational situation the participants made a clear distinction between “severe” (acute) and “normal” (chronic) health complaints.

Chronic health complaints were headaches and skin diseases. Headaches were caused by working under the sun or by working with thinner and paint. An operator of a garage had this to say: *'Headaches are always there, we just take a Panadol tablets every now and then and it is over'.*

The exposure to paint, grease, working with chemicals, and welding was mentioned to be associated with skin problems as expressed below by an employee: *'Most of us have the attitude that skin disease cannot kill an African, so sometimes we do not even care to wash our working clothes'.*

The employees and operators mentioned eye disorders, respiratory diseases and accidents as acute health problems. Eye problems were related to exposure to the radiation caused by welding, and to exposure to the bright fires used for metal work. The lack of protective gear was seen as the main reason for developing eye problems.

However, some of the operators had a different opinion, one of them said: *'We can buy the protective gears, but the workers may not use them unless you scold them and sometimes force them'.*

Respiratory diseases were mentioned to be associated with exposure to welding fumes, inhaled chemicals during spray painting, chemicals from car batteries and saw dust. The majority of the employees and operators associated the exposures to welding

fumes, spray painting, and (saw) dust with the risk of developing tuberculosis (TB). The overcrowding of the working areas was only once mentioned as a possible risk factor for TB.

The general living situation, such as overcrowding in the homes was never mentioned as a potential risk factor. A typical statement was: *'I think TB is caused by thick dust. When welding, especially in a dusty car, the dust really affects you; the first thing being a running nose and the worst effect is TB. And as you know we do not even get milk after such jobs, thus we can easily get sick'.*

### 3.3 Other complaints (workers and employers)

#### 3.3.1 *Insecure working conditions of the small-scale industries*

These remarks have to be viewed in the light of activities of the Dar es Salaam City Council (under the authority of the Regional Commissioner) to 'clean the city'. In this campaign, in early 1995, large areas of the city centre were 'cleaned' from the street vendors with their merchandise. These people were also operating in the informal sector. The operators and employees of the enterprises in our study areas were rightly afraid that the same cleaning up campaign would happen to them. To date the cleaning activities have not yet taken place in the areas in which our study took place.

#### 3.3.2 *Income from SSI*

Most of the operators and employees did not get a fixed salary. The income depended on the availability of work: *'You work, you get money and just eat it'* (employee, metal workshop). *'But suppose it rains for two consecutive days, or you fall*

*sick and have no money, so it is always wise to have a budget to cover for, at most, six days to come'* (employee, metal workshop).

The youngsters who were doing on the job training received very little salary, under the pretence that they were getting education. The consequence for almost all the workers was that they had an unstable and low income, which did not give them the security to provide themselves and their families with the basic needs of daily life. *'The income is so low, even if I would get TSH 500 (<US 1) a day it is still not enough'* (employee, metal workshop).

The working hours and days varied with the availability of work and of electricity (During our study the whole of Dar es Salaam faced a serious power shortage. The system introduced by the Tanzania Electricity Supply Company (TANESCO) was an interrupted power supply in some areas of the city. As a consequence each of the study areas had at most four days per week of power supply. The impact on the productivity of the enterprises could not be estimated but might be large and infact it could be as long as seven days per week from 6 am to 6 pm.

### *3.3.3 Other sources of income beside SSI*

Most of the participants mentioned they had no other income generating activity besides their work in the small-scale enterprise. This corresponded to the results from the Informal Sector Survey mentioned before. However, some participants made remarks that would support another opinion: *'Living in this country you must use your brains, you must do something to supplement your income'* (operator, garage). *'Depending on the income of your small-scale industry alone is just waiting for your death'* (employee, garage).

An operator of a garage said in a separate interview we had with him *'I believe that everyone here has some other income generating activity, either a retail shop, a grain milling machine, or a grocery, but these are kept as secrets by the owners, they would not want anyone around here to know that they own such things'* A few employees came with concrete examples *'I have a chips selling business at a Muslim school, my younger brother helps me in that'* (employee, metal workshop) *'I have a cart and some gallons I have employed someone as a water vendor In the evening he brings me the income he has acquired that day and I pay him'* (employee, garage)

3 4 Occupational and environmental health hazards as perceived by food vendors, residents near SSI and health workers

#### 3 4 1 Food vendors

The food vendors complained about the lack of water, and the problem of garbage and dirt that were scattered in the area They mentioned that they did not experience any problems related to the small-scale industries because *'they are our customers'*

#### 3 4 2 Residents

Two FGD were conducted among residents, one each among women and men Of the 12 women who participated 8 were involved in petty business or food vending and were often directly dependent on the small-scale industries as their customers Of the six men who participated only one was working in the study area He had his own small-scale enterprise (a grain milling shop)

The residents uttered different opinions. The female residents were not very keen on expressing their views on the activities of the enterprises in their residential area: *'We do not face health problems related to those enterprises because they are our customers'*.

Concerning the enterprises the problem of garbage, lack of sanitary facilities and excessive noise were considered to cause them problems for their living environment. *'There is no water and the garages in this neighbourhood do not have toilets. Stomach problems and diarrhoea are prevalent here'* (female resident).

In the FGD among male residents the environmental health problems related to the enterprises were fairly exaggerated (varying from problems like dizziness to heart problems and diabetes).

#### *3.4.3 Health workers*

In the FGD with the health workers their perception on the occupational health hazards of the informal sector workers was comparable to the felt health hazards mentioned by the operators and employees. The main health problems mentioned were related to respiratory tract, eye and skin diseases, trauma and accidents. There was a disagreement with the operators and employees on the risk of getting tetanus infection: *'They just demand tetanus injections whenever they get hurt, it is not that they actually get the disease'*.

Once a general remark was made related to the health of the workers. *'Most of these workers are weak, they do not eat properly, and some times they go without food for long periods'*.

In one of the FGD among the health workers the issue of plot allocation was again put forward as a demotivation for improving the working conditions: *'The enterprises*

*know that they can be chased out of their premises anytime since they have no permits for their plots, that is why they do not even care to improve their premises'.*

The health workers mentioned problems of sanitation and garbage: *'The area (Temeke) is overcrowded, there are no toilets for people to relieve oneself so people resort to do so in open spaces, thus the entire place is so polluted. The surrounding houses are affected'. 'The environment is very dirty. The City Council trucks used to come for garbage collection, it is many years now since they stopped coming'.*

The increasing number of breeding sites for mosquitoes, dirty water pools with the risk of getting bilharziasis and the garbage from which flies can transmit diseases were also discussed.

#### **4. Discussion**

Most of the workers reported problems of overcrowding, accidents and injuries, exposure to excessive noise, and poor working conditions as their felt occupational health hazards. The felt environmental problems included environmental pollution, lack of permanent workplaces and poor investment in occupational health and safety. The reported health problems included chronic what they called “normal” health problems and acute (“severe”) health complaints. The perceived occupational and environmental health problems as seen by the residents and health workers included a shortage of sanitary facilities as well as poor solid waste disposal. Both employers and health workers reported non-use of personal protective devices by the workers in SSI.

The advantages of this study were three-fold. Firstly, the focus groups facilitated a rapid assessment of the felt and perceived environmental and occupational health hazards

related to small-scale industry Secondly, the free format of an FGD gave the participants the opportunity to bring up issues like land insecurity, which were not taken into consideration beforehand Thirdly, the FGD gave us the possibility to familiarize with the participants in the study However, these advantages have to be viewed in the light of the two main disadvantages experienced during the conduction of the FGD In several FGD one or two dominant participants kept the others from contributing their views Hardon et al (1994) have also mentioned this as a disadvantage of focus groups in that minority opinions might not always be expressed in an FGD, especially in cultures where confrontations or debates are considered improper (which is the case for the Tanzanian situation) <sup>15</sup> In the group discussion where the participants were considered to be the most familiar with each other the problem of a dominant participant was, despite the age differences between the participants of these groups, much less pronounced The often-recommended anonymity of participants is also contradicted in a study conducted in India <sup>16</sup> Especially for not sensitive topics the rule of anonymity could be relaxed

Due to a combination of dominant participants, who might want the whole group to focus on both their interests and opinions, and the cultural setting, which might hinder confrontations within the group, the role of the moderator became often dominant Instead of only moderating a discussion more often the moderator took a leading role

Although most of the people whom we approached for the study were willing to cooperate, their motivation was not always clear Frequently people expressed their expectations towards the external researchers participating in the project, and they came with stories about the assistance people used to get from donors Remarks that they should tell us about their problems and how to solve them showed a dependent attitude

These responses could partly be explained by the fact that the community was not involved in the set-up phase of the project. As described by Cornwall participatory research involves "recognizing the rights of those whom research concerns, enabling people to set their own agenda for research and development and in so doing giving them ownership over the process" <sup>17</sup>. In the approach chosen in our study, the researchers defined the first priority after consulting the community. This consultation was done during the FGD. The free format of these FGD gave the participants, despite the fact that they were not involved in the start up of the project, the possibility to contribute their own views and to focus on their priorities. This enabled us not only to identify the health issues but it also gave us a much wider view of the problems encountered in the informal sector. Attempts to increase the level of participation were made after we had conducted some FGD by organizing workshops in which the community and researchers jointly met together to discuss the next steps and way forward for the project.

The second limitation of the study is on FGD. The FGD for workers only and employers only was not possible. Most of the employers were worried because they invaded the land where their SSI were built and at any moment they could have been forced out by the local government as they demolish their workshops. They therefore attended the first FDG to get a first hand information and to influence the other participants. At the end of the FGD they had nothing bad to report on. Only FGD were affected. When we compared the findings from this FGD with those where the workers were alone, the results were similar. However, we did not include the findings in the major analysis because of fear that there might have been an information bias that we had no means of correcting. We had the same problem with food vendors where they attended



FGD for workers in SSI We did not as well use any responses and discussions from the food vendors In any FGD we did not chase away intruders for they were looking for the truth and could influence attendance of subsequent FGD

All the participants in FGD from the SSI were male This was contrary to the results found in the study done in Dar es Salaam in the informal sector where male/female employment in the total informal sector in Dar es Salaam comprised of 60% male and 40% female <sup>10</sup> However, female informal sector workers were mainly engaged in the trade/restaurants and hotel industry Primary school education was the highest level attained by the participants and this finding was found to be similar to that of the Tanzania Informal Sector Survey in 1991 <sup>10</sup>

The results of the FGD showed that, except for the exposures to noise and the bad ergonomic conditions, which we perceived as serious occupational health problems for the workers, the operators and employees were aware of many health risks they were facing during their work at the different enterprises Although knowledge on how a certain exposure could lead to an illness was often lacking, the results of the different types of exposures was known and often the use of relevant protective gear was mentioned as a possible way of prevention

In 1993, ILO conducted a pilot study on occupational health and safety in the informal sector in Dar es Salaam (1994) <sup>11</sup> The worksites for this study were selected from the informal sector enterprises connected to Non Governmental Organizations (NGO) working on promotion of employment possibilities for youth This NGO only accepted enterprises that had a more or less permanent place to operate This formed the main difference between the enterprises included in our study and the different results

obtained could partly be related to this aspect. Thirty worksites were included in the ILO study representing the trades of furniture making, metal work, tailoring and shoemaking, services like garage work, vending and butchery, traditional art, construction and food processing. Interviews, FGD and workplace observations were also done. The results showed that many of the surveyed worksites had multiple problems (e.g. inappropriate working tools, poor sanitation and exposures to biological, mechanical, ergonomic, chemical, physical, psycho-social hazards). The awareness of different occupational safety and health problems was said to be lacking among many of the operators and workers. The gap in knowledge and information would have resulted in the lack of initiatives of operators and workers to take preventive measures or to make conscious efforts in safety and health matters.

However, the results of that study also showed that the participants were of the opinion that numerous factors could affect their health and safety while carrying out their work. It is important to realize that neither the ILO study nor our study presented a complete picture of all the health hazards and all the possible exposures for workers of small-scale enterprises and for residents living in the vicinity.

There is a gap between the health problems felt by the workers and employers, and the health problems perceived and observed by us, and the real health problems. From an epidemiological perspective, an application of early detection methods, health services may contribute in identifying a series of observed health needs. These health needs may or may not coincide with the felt needs by the population. At the same time, there are a series of health needs, which will neither be felt nor observed, but may constitute individual or collective health problems. Therefore a mention is made of the

universe of real health needs, which are more extensive than the sum of felt and observed/identified health problems

The level of awareness of possible health risks is important for the success of future interventions. According to an ILO study the lack of awareness resulted in a lack of action from the side of the operators so as to protect the safety and health of the employees<sup>5</sup>. However, in the ILO study the impact of having insecure working and living environment was not taken into account. This could partly be explained by the different nature of the enterprises involved in that study. In our case, the issue of insecurity can, at least partly, clarify the lack of action from the side of the operators.

As emphasized by Schulz<sup>18</sup> and as shown in our study the Local Government has an important role to play in creating a more secure working environment. At this moment, the insufficient plot allocation contributes to a job insecurity. In addition, the low incomes, and bad working conditions, might have a direct impact on the health of the people. A clear policy for the informal sector which would give the Local Government an opportunity to allocate plots to informal sector entrepreneurs would be a first step towards improvement of the working conditions of informal sector workers. As shown in our study the willingness to invest towards improvement of the workplaces might increase as soon as there was an assurance of a permanent work place. The input the operators and employees would be willing to give is of crucial importance for any further activities planned. Benavides<sup>19</sup> wrote about the little environmental consciousness on the part of small-scale entrepreneurs who usually work at the survival level and cannot afford to bother themselves with activities not directly related to their productivity<sup>19</sup>.

Packard<sup>6</sup> and Acheson et al<sup>20</sup> reported that urban people who were either unemployed or marginally employed had high rates of common infectious diseases including TB, pneumonia and venereal diseases. These findings were found to be similar to our study where we reported that occupational and environmental issues were being given a low priority by workers.

In the First Conference on Occupational Health in Developing Countries held in Sri Lanka in 1981, the need for integration of occupational health services with Primary Health Care was stressed. Primary Health Care advocates for an integrated and comprehensive approach to the health needs and problems of working populations, with a focus on equity and workers' participation in decision-making processes<sup>21</sup>. Before this can be achieved, health authorities need to be more aware of the health conditions of their workers. District health systems need to be strengthened and reoriented towards health promotion, prevention and protection<sup>22</sup>. Attention is needed to ensure that integration of occupational health with Primary Health Care goes beyond the establishment of a separate, vertical programme<sup>23</sup>. For example, health promotion aims at working with people in the 'settings' of their every day life, focusing on building 'healthy workplaces' or 'healthy neighbourhoods', rather than focusing on people at risk for specific conditions or already in contact with the health services<sup>24</sup>.

Besides having insecure working situations the general living conditions of these low-income earners have to be considered. Many people working in the sphere of the informal sector lead a precarious life, which threatens their own health as well as that of the wider community, in which they live. In general, the health workers demonstrated an understanding of the situation of the workers in SSI. *'I may go to an enterprise and tell*

*them to do something for their own benefit health wise but they might not listen These people are struggling to earn a living, they cannot afford to heed our advice, unless they are spoon-fed'. (FGD, workers).*

Furthermore, as Rossiter <sup>25</sup> describes, the poor basic health of the people must cost much more loss of productivity and cause more economic damage than occupational diseases. Therefore, occupational health and the environmental impact of the enterprises can never be dealt with as an isolated topic for which intervention programmes can be developed.

A broader approach, taking into consideration the living conditions and living environment of the people, cannot and should not be avoided. Given the complexity of the above issues, it is clear that the health sector alone will not be able to provide a coherent response that will prevent ill health as well as promoting health. The Local Government should use a cross sectional approach to solve the problem of land allocation. The level of awareness among the workers may be considered a positive factor and will make the workers themselves become more actively involved in improving their working or living conditions or in the decision making process about their future.

## **5. Conclusions and policy recommendations**

This study concludes that workers in SSI felt that they were aware of the various health hazards they were exposed to and they could only invest in improvement of working conditions if there was a permanent land allocation for their workshops. Facing a large urbanization problem and few formal employment possibilities, the positive aspects of the informal sector have to be recognized, and activities should be developed to

minimize the negative aspects. A good policy for the informal sector, including reducing the insecurity for the workers, and a preventive approach from the health sector, and a cross sectional approach from local government could maximize the positive contribution.

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Table 2 1 Participants involved in the focus group discussions (FGD) from small-scale industries (SSI)

Area	Catego ry	Units involved/people	No	Randomly selected	Number of FGD	Number of participan ts
Tem	SSI	Garages 9 (units) Metal workshop (units)) Wood workshops (units)	27 1 3	5 1 2	1 1 1	10 9 10
	Comm	Food vendors (people) Health Facilities (units) Residents (men) Residents (women)	20 2 30 40	10 10 10 10	1 1 1 1	10 10 10 10
Ge	SSI	Garages (units) Welding (units) Spray painting (units) Metal workshops (units) Wood workshops (units)	24 4 6 30 50	12 2 2 15 20	2 1 1 1 1	20 10 9 10 5
	Comm	Food vendors (stalls) Health facilities (units) Residents (people)	6 1 -	3 1 -	1 1 -	10 10 -
Mwa *	SSI	Garages (units) Metal workshops (units) Health facility (units)	2 7 1	2 3 1	1 1 -	10 10 -

\* No wood workshops, no food vendors, one health facility (did not participate)

Tem-Temeke area, Ger-Gerezani area, Mwa-Mwananyamala area, Comm-Community

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